Existing 2-Wire Integrity Field Test

To retrofit legacy 2-Wire to the NLP, use this test to determine any potential concerns or future issues.

Required Equipment

- True RMS digital multimeter (e.g.: Armada Pro95i or Armada Pro40)
- True RMS clamp meter (0.1mA resolution)(e.g.: Armada Pro95i)
- Wire nuts / Twist-on wire connectors
- Existing controller or 24VAC transformer

Field Test

1. **Measure 2-Wire Voltage at the controller/transformer. Results _____V**
    a. Power the 2-wire path by placing the controller into 50/60Hz short finding mode or connecting the 2-wire path directly to a 24VAC transformer.
    b. Using a multimeter in AC volts mode, place the leads of the multimeter on the 2-wire path at the controller.
    c. Record the voltage measurement below.

2. **What is the 2-Wire voltage at the furthest decoder? Results _____V**
    a. Power the 2-wire path by placing the controller into 50/60Hz short finding mode or connecting the 2-wire path directly to a 24VAC transformer.
    b. Using a multimeter in AC volts mode, place the leads of the multimeter on the 2-wire path at the furthest decoder.
    c. Record the voltage measurement below.

3. **What is the 2-Wire path ground leakage current on the red wire(s)? Results _____mA**
    Controller must be grounded!
    a. Place the controller into 50/60Hz short finding mode.
    b. Disconnect all 2-wire path connections from the controller.
    c. Connect all of the red wires from the 2-wire path into the same terminal. If using a transformer, connect one transformer wire to all red wires of the 2-wire path and the other transformer wire to Earth ground.
    d. Place a clamp meter (in mA AC mode) around the red wires.
    e. Record the current measurement below.

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4. **What is the 2-wire path ground leakage current on the black wire(s)? Results _____mA**

   Controller must be grounded!

   a. Place the controller into 50/60Hz short finding mode.
   b. Disconnect all 2-wire path connections from the controller.
   c. Connect all wires (red & black) from the 2-wire path into the same terminal. If using a transformer, connect one transformer wire to all wires of the 2-wire path and the other transformer wire to Earth ground.
   d. Place a clamp meter (in mA AC mode) around all red & black wires.
   e. Record the current measurement below.

5. **What is the resistance of the 2-wire path when shorted? Results _____ Ω**

   a. Disconnect all 2-wire path connections from the controller.
   b. Connect the red & black wires at the end of each 2-wire path together.
   c. Using a multimeter in resistance (Ω) mode at the controller, measure the resistance between the red & black wires of each 2-wire path.
   d. Enter the highest measurement below.